



## Metaphors Developed by Teachers for the Gamification Approach in Education

Niyazi Aksoy<sup>1</sup>  Elif Aksoy<sup>2</sup>  Ertuğrul Usta<sup>3</sup> 

<sup>1</sup> Ministry of National Education, Primary School Teaching, Sakarya, Türkiye  
[niyaziaksoy1@gmail.com](mailto:niyaziaksoy1@gmail.com)

<sup>2</sup> Sakarya University, Institute of Education Sciences, Sakarya, Türkiye  
[elifaksoyn@gmail.com](mailto:elifaksoyn@gmail.com)

<sup>3</sup> Necmettin Erbakan University, Department of Computer and Instructional Technologies, Konya, Türkiye  
[eusta@erbakan.edu.tr](mailto:eusta@erbakan.edu.tr)

### Article Info

### ABSTRACT

#### Article History

Received: 07/06/2022

Accepted: 12/11/2022

Published: 31/12/2022

#### Keywords:

gamification,  
gamification in  
education,  
metaphor,  
teacher

The purpose of this study is to determine teachers' perceptions of gamification approach in education through metaphors. The study group of the research consists of 60 teachers who received "Gamification in Education" training under the Sakarya Provincial Directorate of National Education using the purposive sampling method. In order to collect data in the research, a "metaphor form" was prepared. In metaphor form, teachers said "It is like gamification; because..." were asked to complete the sentence. "Content analysis" method was used in the analysis of the data. The main problem of the research is, which metaphors do teachers use to describe the concept of gamification in education? According to the results of the research, 42 valid metaphors created by the teachers were grouped under 7 categories. Teachers' approach to gamification in education; It has been determined that they perceive it as an inclusive and entertaining approach that reflects real life, increases motivation, facilitates learning, increases imagination and creativity, reaches every child. The metaphors revealed as a result of the research can be used in terms of defining the gamification approach, facilitating its comprehensibility, and creating a rich content in revealing its difference from children's games.

**Citation:** Aksoy, N., Aksoy E. & Usta, E. (2022). Metaphors developed by teachers for the gamification approach in education. *Journal of Teacher Education and Lifelong Learning*, 4(2), 150-162.



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## INTRODUCTION

The 21st century is witnessing dizzying changes in information technologies (Özsoylu, 2017) with the Industry 4.0 revolution. These changes, which affect all areas of life, have brought the concept of Education 4.0 to the agenda of education as a result of the understanding of raising people suitable for the age (Puncreobutr, 2016). Existing educational understandings need new approaches in order to keep up with this transformation called Education 4.0 (Öztemel, 2018) In this context , many systemic change activities are carried out in the field of education in the world and in Turkey (Öncü, 2016).

Based on constructivism, which is one of the contemporary educational theories applied in many developed countries, the Ministry of National Education (Mine Çeliköz, 2017) updated its curricula in 2005, 2015 and 2018 in accordance with the requirements of the new era (MoNE, 2018). The aim of educating leader teachers who have acquired a culture of using and developing digital content effectively and ensuring that this culture becomes widespread in schools has been included in the 2023 Vision Document (2023 Education Vision, 2019) under the title of digital content and skill-supported transformation in learning processes. In this context, various trainings are organized for teachers in provinces. One of them is applied gamification training (NED, 2018).

In recent years, the increasing interest in digital games with the developments in the Internet and information technologies has revealed the concept of gamification in education (Özcan, 2019). It is thought that the attention and focus problems experienced by the children of the digital age, called digital natives, in the (Prensky, 2001) classical education processes can be solved through gamification, by increasing the motivation and dedication of the learners and making the education processes fun and interesting (Sezgin, Bozkurt, Yılmaz, & Linden, 2018). Gamification, with its general definition, is where reality is made playful and thus skills, motivation, participation and creativity are developed; It is an area affected by economic, cultural and social developments (Hamari, 2022).

Gamification is defined as the development of problem solving skills by using game structures in different areas outside the game (Zichermann & Cunningham, 2011). In a meta-analysis study conducted by Sailer & Homner (2022), it was stated that gamification is an effective method for teaching. Gamification of learning environments has been demonstrated that the gamification processes experienced by students support learning and increase the learning effect (Landers et al., 2018).

The gamification approach makes important contributions to our education system by attracting the attention of today's children to the lesson, due to its fun and motivation-enhancing features (Yıldırım & Demir, 2014) because one of the biggest problems faced by teachers is that students cannot attend classes due to low attention and motivation (Erümit, 2016). Effective instructional content is a prerequisite for successful gamification, as gamification is often used to enhance instruction, not replace it (Landers 2014).

In many content analysis studies conducted when the literature was scanned (Özcan, 2019), it (Kunduracioğlu, 2018) was revealed that gamification positively affects motivation, academic achievement and student attitudes. In particular, providing formative feedback to students in the process is seen as a fundamental feature of gamification (Wouters et al., 2013; Prensky 2001, Werbach and Hunter 2012). In the research conducted by Aksoy and Usta (2020) on the use of badges in gamification, it is seen that teachers are warm to gamification. At the same time, it has been seen that the concept of gamification is confused with educational games in most of the studies (Karataş, 2014). While game-based learning is the teaching of lessons with games, gamification in education is the gamification of lessons with motivation-enhancing and interesting components such as points, badges, level and experience points (Yıldırım & Demir, 2014).

In the study conducted by Chin, Wang and Chen (2018), the effect of augmented reality-based mobile applications on student achievement and motivation was examined. Experimental results showed that students who had the opportunity to learn through the proposed system showed higher academic

achievement and higher motivation to learn.

In recent years, many studies have been conducted to examine the effects of gamified mobile applications on students' success and whether player types predict students' achievement scores. In a study conducted by Uğur-Erdoğan and Çakır (2022), it was revealed that gamified mobile applications have no effect on success, but player types are effective in predicting success.

Another study by Lopez and Tucker (2019) reveals that player types are a very important issue to be considered in gamification design.

Metaphors were used in this study in order to define the concept of gamification in education better and to reveal teachers' perceptions of gamification. Metaphor studies are used to structure the conceptual systems of the mind, simplify complex ideas and reveal mind maps (Arslan & Bayrakçı, 2006).

The relevant books and articles are examined, although there are metaphor studies about internet-based learning (Kaya, 2013), creative drama (Gündoğan & Ergenekon, 2019), the concept of toy (Giren & Durak, 2015), traditional game and digital game (Hazar, Demir, & Dalkıran, 2017), no previous metaphor analysis study about gamification in education and revealing teacher perceptions has been found. It is thought that the reason for this is that the gamification approach in education is new and therefore gamification training in education has not become widespread.

This study was conducted to determine teachers' perceptions of the concept of gamification in education through the use of metaphors. It is important in terms of filling this gap in the literature and creating a source for other researches.

### **Importance of Research**

Metaphor is an important tool in revealing how the human mind perceives a concept. Based on the metaphors made for a concept, important predictions and retrospective evaluations can be made about those concepts (Coklar & Bağcı, 2009). With the metaphors put forward by teachers about the concept of gamification in education, it can be revealed what gamification is in education and what the meaning of in-service training given to teachers in this field is. The different metaphor definitions that are finally put forward in the research are also important in terms of being a source for new study areas or plans on gamification in education.

### **Purpose of the research**

The aim of this study is to determine the perceptions of the teachers who participated in the gamification training in education within the scope of in-service training, about the concept of gamification in education through metaphors. For this purpose, answers to the following questions were sought in the study:

1. Using which metaphors did the teachers describe their perceptions of the concept of gamification in education?
2. Under which categories are the metaphors put forward by the teachers about the concept of gamification in education, in terms of their common features?

### **METHOD**

In this part of the study, the research model, participants, data collection tool, data collection and data analysis are explained.

#### **Model of the Research**

In this study, in which the metaphorical perceptions of teachers about the concept of "gamification in education" are tried to be revealed, the phenomenology pattern, one of the qualitative research methods, was used. In phenomenological studies, data sources are individuals or groups that experience the

phenomenon that the research focuses on and can express or reflect this phenomenon (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2019).

Metaphors, a data collection technique from qualitative research methods, were used to determine teachers' perceptions and views on the concept of gamification in education.

The analysis of the data obtained within the scope of the study was made with the "content analysis" method.

### Participants

This study, which aims to reveal the perceptions of teachers about the concept of gamification in education, includes teachers who worked in the province of Sakarya in the 2018-2019 academic year and received gamification training in education. Purposeful sampling method, one of the qualitative sampling methods, was used while choosing the study group in this study. Purposive sampling; Depending on the purpose of the study, it allows in-depth research by selecting information-rich situations (Büyüköztürk et al., 2019, p.92)

**Table 1.** Numerical information of teachers

		f	%
Gender	Male	15	25
	Female	45	75
Professional Seniority	1-5	2	3.3
	6-10	12	20
	11-15	27	45
	16-20	12	20
	21-25	6	10
	26 and above	1	1.7
<b>Total</b>		60	100

When Table 1 is examined, it is seen that a total of 60 teachers, 45 female and 15 male, who received gamification training, participated in the research. When examined according to the years of professional seniority, it is seen that the teachers with 11-15 years of seniority have the highest share with 45%, 26 years and above show the lowest level of participation with 1.7%, and between 1-5 years show the lowest level of participation with 3.3%. It can be said that teachers between 6 -10 years and 16-20 years are evenly distributed with 20%.

### Data Collection Tool and Data Collection

Within the scope of the study, 60 teachers who participated in the gamification training in education in Sakarya were reached by e-mail and telephone, and a form consisting of three parts, which was developed with the Google forms tool, was sent to the instruction, personal information and metaphor question. In the instruction part, teachers were informed about the concept of research and metaphor. In the personal information part, questions about the gender and professional seniority of the participants were included. In order to reveal the perceptions of the teachers participating in the research about the concept of gamification in education, in the last part of the participants, "Gamification. . . like, because. . ." were asked to complete the sentence. In addition, multiple entries were prevented by placing an e-mail restriction on the data collection tool. The data was collected through Google forms and no instructor was given. The forms were closed to the entrance at the end of the application and turned into documents and analyzed by the researcher.

## **Analysis of Data**

The analysis of the metaphors obtained from the research was done with the “content analysis” method. In content analysis, researchers can make comparisons about the subject they are examining by developing appropriate categories, classifications or markings (Büyüköztürk et al., 2019, p. 259). It was carried out in the following five stages, which were revealed by the analysis of the metaphors put forward by the teachers (Saban, 2009).

### ***Coding and Extraction Phase***

The metaphors produced by the teachers were put in alphabetical order. The metaphors introduced were simply coded (eg “sun”, rainbow”, etc.). Responses that did not include a metaphor (n=4) were excluded. Some answers mentioned the benefits of gamification rather than metaphors (for example, it increases memorability, allows learning while having fun). Others made evaluations that could not be attributed to the metaphor (eg, enjoyable work and too serious.). For these reasons, 4 response forms were eliminated and excluded from the scope of this study.

### ***Example Metaphor Image Compilation Phase***

A total of 42 usable metaphors were obtained by eliminating those that did not contain metaphors from the answers given by the participants. For the categorization and evaluation stages, a sample metaphor list was created that can best represent each metaphor. In addition, the demographic information of the participant who created the metaphor was coded at the end of the metaphor. F and M letters were used for gender, and even numbers such as 10-15 as seniority years were used for professional experience. For example, the sun (M,10-15).

### ***Category Development Phase***

The metaphors created by the participating teachers were examined by taking into account the common qualities they have for the gamification approach in education, and 7 different conceptual categories were developed by using the sample metaphor list prepared during the compilation phase.

### ***The Stage of Ensuring Validity and Reliability***

Good definition of each of the stages in a qualitative research is one of the factors that increase the validity. (Buyukozturk et al., 2019, p. 265). In this study, data collection tools, how the data were collected, the selection of the participants, and the data analysis processes were explained in detail.

Another important issue in the analysis of qualitative data is the reliability, which reveals the coding accuracy of the data (Coklar & Bağcı, 2018).

For this purpose, two lists were given to the expert who worked on metaphor analysis: an ordered list of 42 sample metaphors and a list of 7 conceptual categories. The domain expert was asked to match all of the sample metaphors in the first list with the categories in the second list. Afterwards, the matches made were compared with the matches made by the researcher before, and consensus and disagreement were determined with the formula put forward by Miles and Huberman (1994: 64), and the matching agreement between the researcher and the field expert was calculated and found to be 96%.

### **Transferring Data to Statistics Program for Data Analysis**

Within the scope of the research, 42 metaphors were identified and these metaphors were divided into 7 conceptual categories. Then, the number (f) and percentage (%) of participants showing 42 metaphors and 7 categories were calculated and the results were analyzed and interpreted.

## **FINDINGS**

In this section, the metaphors that the participants produced for the gamification approach in education and the categories created by these metaphors are presented in the form of tables and the

findings for the purposes of the research are presented under subheadings.

### Metaphors Produced About Gamification Approach In Education

The metaphors produced by the teachers participating in the research for the “Gamification in Education” approach are presented in Table 2 after the expressions that do not contain metaphors are removed.

**Table 2.** *Metaphors Produced by Teachers*

No	metaphor	f	%	No.	metaphor	f	%
1	Key	1	1.8	22	Do n't pretend	1	1.8
2	Memorialization	1	1.8	23	Humor	1	1.8
3	Making sense	1	1.8	24	The game	1	1.8
4	Mirror	3	5.3	25	Awarding	1	1.8
5	Glass full	1	1.8	26	Pizza	1	1.8
6	Chocolate	1	1.8	27	Advertisement	1	1.8
7	Child	2	3.6	28	Reading a novel	1	1.8
8	Experiment show	1	1.8	29	Mirage	1	1.8
9	Touch	1	1.8	30	Release of sparrow from cage	1	1.8
10	Ice cream	1	1.8	31	Table	1	1.8
11	Thinking	1	1.8	32	Concretization	1	1.8
12	a universal language	1	1.8	33	Candy	1	1.8
13	Rainbow	2	3.6	34	Syrup	1	1.8
14	Sun	2	3.6	35	Experience	1	1.8
15	Dreaming	2	3.6	36	Theatre	2	3.6
16	Life	7	12.5	37	Drinking the rain	1	1.8
17	To deceive	1	1.8	38	Learning by doing	1	1.8
18	Comedy show	1	1.8	39	a meal	1	1.8
19	Fun fair	1	1.8	40	Christmas tree	1	1.8
20	Tale	2	3.6	41	Star	1	1.8
21	Magnet	1	1.8	42	High jump	1	1.8
TOTAL						42	

The teachers participating in the research produced a total of 42 metaphors belonging to the “gamification in education” approach. According to the results of the research, the most used and repetitive metaphors among these metaphors were determined as “life” (7 times), “mirror” (3 times), and “theatre, fairy tale, dream, child, rainbow” (2 times). Accordingly, it is seen that the frequency of repetition of the metaphors used in the research is low.

### Conceptual Categories Related To The Metaphors Produced About The Gamification Approach In Education

In the analysis and categorization of the metaphors produced by the participants, the content of the metaphors, their relationship with the image used, the reasons presented after “it is like...” and the common features were grouped. The metaphors produced by the teachers for the gamification approach in education are divided into categories under 7 headings. The numerical data of these categories are presented in Table 3.

**Table 3.** *Conceptual Categories of Gamification*

Categories	Metaphors	Metaphor frequency	Metaphor custom
<b>Gamification as a source of motivation</b>	Humor (1), magnet (1), chocolate (1), glass full (1), ice cream (1), candy (1), star (1), advertisement (1), awarding (1)	9	9
<b>Gamification as a fun activity</b>	Reading a novel (1), amusement park (1), comedy show (1), play (1), kid (2), jumping from height (1)	7	6
<b>Gamification as a learning facilitator</b>	Syrup (1), eating ( 1), touching ( 1), pretending (1), making sense (1), embodying (1), fooling (1), pizza (1)	8	8
<b>Gamification as an inclusive approach that considers individual differences</b>	Christmas tree (1), sun (2), rainbow (2), key (1), universal language (1)	7	5
<b>Reflective gamification of real life</b>	learning by doing (1), memorializing (1), table (1), theater (2), life (7), experience (1), mirror (3) sparrow from cage (1)	17	8
<b>Gamification as an approach that develops imagination and creativity</b>	Fairy tale (2), mirage (1), thinking (1), daydreaming (2)	6	4
<b>Gamification as a waste of time</b>	drinking the rain (1), experiment demonstration (1)	2	2
<b>TOTAL</b>		<b>56</b>	<b>42</b>

#### *Gamification as a source of motivation*

It is seen that the common feature that becomes evident in the metaphors of this category is motivation. The metaphors (f=9) belonging to the category (9) were produced by the teacher. Gamification in education as a source of motivation “chocolate, ice cream, candy, etc.” such as images that every child can love, interest, and desire to taste again, and “humor, magnet, rewarding, etc.” Metaphors symbolizing motivation such as

The metaphor expressions representing the category of gamification as a source of motivation for the teachers participating in the research are as follows:

Gamification is like a magnet because it draws the child into that knowledge (M/20-25)

Gamification is similar to chocolate because chocolate attracts everyone. (F/11-15)

Gamification is like ice cream because the taste stays on your palate as you eat it. (F/20-25)

Gamification is like candy. Because as long as you taste it, there is no possibility that you will not like it. ( F/11-15)

Gamification is like a star because it shows itself and always shines. (F/16-20)

Gamification is like a well-made advertisement. When the requirements to reach the product, that is, the result, are revealed by gamification, the individual does what is necessary to reach the result with his own will. The buyer is satisfied, the seller is satisfied. (F/6-10)

Gamification is like humor because motivation demands it. (F/11-15)

Gamification is similar to giving rewards because it motivates the child, attracts attention and prevents distraction (F/11-15)

If we compare life to a glass, gamification is like developing a perspective on the half-full glass. Because every gain that is gamified shows us a more positive and fun way to reach the goal. (F/11-15)

### ***Gamification as a fun activity***

It is seen that the common feature that becomes evident in the metaphors of this category is entertainment. The metaphors (f=7) belonging to the category (6) were produced by the teacher. Gamification in education as a fun activity can be defined as “amusement park, high jump, comedy program etc.” used as metaphors consisting of fun images such as

The metaphor expressions of the teachers participating in the research that represent the category of gamification as a fun activity are as follows:

Gamification is like an amusement park because the child inside comes out. (F/6-10)

Gamification is like jumping from a height because it is exciting and fun for both the gamer and the player. (F/11-15)

Gamification is like a comedy program because you have fun, you laugh, but you can't explain why you laughed at the exit. (F/11-15)

Gamification is like reading a novel because you think you are just having fun while reading, but there has been a lot of things that it has taught you without realizing it. (F/11-15)

Gamification is similar to a game because both have rules and game elements, but there is no game mechanic in gamification. (F/11-15)

Gamification is like a child. Because it adds color to people's life. (F/20-25)

### ***3.2.3. Gamification as a learning facilitator***

It is seen that the common feature that becomes evident in the metaphors of this category is facilitating learning. The metaphor (f=8) belonging to the category (8) was produced by the teacher. Gamification as a facilitator of learning “pizza, syrup, eating, etc.” used as metaphors consisting of images such as

The metaphor expressions of the teachers participating in the research that represent the category of gamification as a facilitator of learning are as follows:

Gamification is like pizza, it both satisfies and makes you happy. (M/11-15)

Gamification is like syrup because syrups are sweet for kids to drink. But the goal is not taste, but utility. The purpose of gamification is not to play, but to reach the goal. (M/11-15)

Gamification is like eating, because in the end, we both satisfy our hunger for knowledge and experience and enjoy this work. (F/1-5)



Gamification is like touch because you descend into the student's life by gamifying the lessons. If we want to make the touch that he expects, it should be told with fun, and for this, I think it should be gamified. (M/6-10)

Pretending to gamify because what is actually done is not a game. (F/6-10)

Gamification is similar to making sense because it simplifies. (F/11-15)

Gamification is like concretization because the student shares the information with the group and reflects what is in his mind with action. (F/6-10)

Gamification is like cheating. Because he doesn't even realize he's learning when he thinks he's playing a game. (F/20-25)

### ***3.2.4. Gamification as an inclusive approach that considers individual differences***

It is seen that the common feature that becomes evident in the metaphors of this category is to observe individual differences and to reach every child. The metaphors (f=7) belonging to the category (5) were produced by the teacher. Gamification in education as an inclusive approach that considers individual differences "sun, rainbow, Christmas tree, etc." metaphorized using inclusive images such as

The metaphor expressions of the teachers participating in the research representing this category are as follows:

Gamification is like the sun. It warms and illuminates all children. (F/16-20)

Gamification is like a Christmas tree because there is a gift for everyone under it. (F/6-10)

Gamification is like a rainbow because it adds color to education, attracts the attention of every child and they are very happy when they see the game in education. (F/11-15)

Gamification is like a key that opens every door, because it can be used and improved in every field. (F/6-10)

Gamification is like a universal language. Because everyone can communicate with gamification (F/1-5)

### ***3.2.5. Reflective gamification of real life***

This category is the category in which the metaphors belonging to the highest number of teachers (f=17) and category (8) are produced, and the common feature that becomes evident in the metaphors is the reflection of real life. Here, "life (7), mirror (3), theater (2)" images come to the fore.

The metaphor expressions of the teachers participating in the research that represent the category of gamification reflecting real life are as follows:

Gamification is like life. Because every new situation or problem we encounter is like a new game with its own rules and fiction. (M/16-20)

Gamification is like a mirror because it reflects life. (M/11-15)

Gamification is like theatre, because life itself is a theater stage. ( F/16-20)

Gamification is like a learning by doing gamification. Because it appeals to the child's five senses. (M/26+)

Gamification is like memoirization because what we learn becomes permanent because we employ more than one sense, entertainment, thus dopamine, socialization and communication. (F/16-20)

Gamification is like a table that brings students, parents and teachers together (F/11-15)

Gamification is similar to experience because it provides permanent learning. (F/11-15)

Gamification is like releasing a sparrow from the cage, because the children who are fixed on the benches are no different from the sparrows in the cage. (F/16-20)

### ***3.2.6. Gamification as an approach that develops imagination and creativity***

It is seen that the common feature that becomes evident in the metaphors of this category is the development of imagination and creativity. The (4) metaphors (f=6) belonging to the category were produced by the teacher. As an approach that develops imagination and creativity, gamification in education is “tale, dreaming, mirage, etc.” expressed with metaphors consisting of images such as the metaphor expressions of the teachers participating in the research representing this category are as follows:

Gamification is like a fairy tale, because just as fairy tales develop our imagination, play also develops our creativity and imagination. (M/11-15)

Gamification is like daydreaming, because dreaming liberates and helps to reveal the potential within. (M/16-20)

Gamification is like a mirage. Because the child learns in a dream. (M/16-20)

Gamification is similar to thinking, because the child thinks and plays. (M/20-25)

### ***3.2.7. Gamification as a waste of time***

This category (2) consisted of (2) metaphor expressions put forward by the teacher. It draws attention to the limitations and usefulness of the gamification approach in education in the implementation and planning stages. In this category, it is seen that the features such as loss of time and inability to reach the goal become more pronounced. “Drinking the rain and experiment demonstration” images were used.

The metaphor expressions of the teachers participating in the research that represent the category of gamification as a waste of time are as follows:

Gamification is like trying to open your mouth and drink water while it’s drizzling. In the time of drinking two or three sips of water, you will get drenched because the behavior, acquisition or information desired to be taught with the game may not reach the receiver or the receiver may make wrong inferences. In addition, the games take a lot of time and give little gain. (K/6-10)

Gamification is like an experiment show because if you put more or less material in the experiment, your students will be disappointed. They cannot reach the visual feast they expect. This does not make the subject memorable. (M/20-25)

## **DISCUSSION**

In this study, in which teacher perceptions of the gamification approach in education were determined through metaphors, 42 metaphors were produced in 7 different categories. Teachers see the gamification approach in education as an inclusive and entertaining approach that reflects real life, increases motivation, facilitates learning, increases imagination and creativity, and reaches every child. Deterding, Dixon, Khaled, and Nacke (2011) consider gamification “the use of game designs in in-game contexts to add play, passion, and fun to activities and completion. On the other hand the findings of this study (Bolat, Şimşek, & Ülker, 2017) coincide with the research findings, which were determined by the gamified learning environment to have benefits such as easy learning, increasing permanence, fun learning, increasing the learning speed, coming to the lesson prepared, focusing on the lesson and being motivated to the lesson. Among the metaphors created, magnet, ice cream, candy and chocolate metaphors are some of the metaphors that represent this.

Perceiving gamification as a source of motivation in the study; the findings in the literature that gamification increases motivation. (Hamari, Kouvisto, & Sarsa, 2014; Buckley & Doyle, 2016; Sezgin, Bozkurt, Yılmaz, & Linden, 2018; Wichadee & Pattanapichet, 2018). The increase in the motivation of

the participants is achieved by carefully integrating a number of components into the gamification design for a specific purpose. The concepts of game and gamification diverge at this point. For example, for those working on a gamified activity, solving the puzzle with components such as difficulties and limitations is a real goal (Liu, Alexandrova, Nakajima, & Lehdonvirta, 2011).

Metaphors that describe gamification as an inclusive approach that considers individual differences reveal the perception that students with different learning styles find something from themselves and are involved in the learning process. Gülbahar (2005) states that learning styles and individual differences have a positive effect on success when they come together with technology-enriched and well-designed learning environments. The sun, rainbow and Christmas tree metaphors are some of the metaphors that represent this.

Metaphors produced for the gamification approach as a facilitator of learning support the finding by Kalkan (2016) that gamification plays an important role in increasing the level of success and flow. On the other hand, gamification, which is perceived as reflective of real life, contradicts the view that the play (Huizinga, 2017) in Homo Ludens is a world beyond the human's living space, outside of his reality. Whereas Kapp (2012) used gamification, transforming life experiences into playful actions, and McGonigal (2011) expresses it as a new approach that can be used to solve real-life problems. At this point, it can be said that the concepts of game and gamification diverge.

Metaphors that see gamification as a disappointment and a waste of time when it is not well designed also supports Avşar and İsaetli's (2017) view that gamification design should be done well in order to make the learning process more efficient and effective in gamification applications. The metaphors of drinking the rain and demonstration of experiment are some of the metaphors that represent this.

The perceptions of the teachers participating in the research are that the features such as motivation, attention, entertainment, individual differences, imagination and creativity required by the 21st century education understanding can be gained by the gamification approach.

## SUGGESTIONS

The metaphors revealed as a result of the research can be used in terms of defining the gamification approach, facilitating its comprehensibility, and creating a rich content in revealing its difference from children's games. In this study, teachers' perceptions of the gamification approach in education were revealed, and the school type, school level and branch of the participants were not considered. Considering these variables, studies can be done on this. In order to bring a holistic perspective to the gamification approach in education, research on student perceptions at different levels can also be conducted.

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